

GUEST EDITORIAL

EuMW Special Issue

BART NAUWELAERS, FRANK E VAN VLIET AND FRANÇOIS LE CHEVALIER

The International Journal of Microwave and Wireless Technology always welcomes free submissions by authors active in the microwave field. However, once a year an issue appears for which the manuscripts have been invited. This Special Issue of the Journal comprises expanded versions of selected papers from the European Microwave Week. It is this issue that you are reading now. The last EuMW – just like the Journal, an initiative of the European Microwave Association (EuMA) – was held in Amsterdam, The Netherlands, from October 28 to November 2, 2012. In conjunction with an exhibition, it consisted of three conferences: the European Microwave Conference (EuMC), the European Microwave Integrated Circuits Conference (EuMIC), and the European Radar Conference (EuRAD). Within a week, the latest technical developments in the microwave field and related topics were presented, making this the premier microwave event in Europe. Approximately 1100 individual delegates attended EuMW 2012, which is excluding the visitors of the exhibition.

This special issue of the International Journal of Microwave and Wireless Technology on the EuMW 2012 contains expanded versions of the best conference papers (according to the scores from the Technical Program Committee), which then went through a thorough review and editorial process. From the total of 768 paper submissions to the three conferences, it is the top 27 contributions that have made it into this journal, a truly selective procedure indeed. The contributions reflect the dynamic landscape of microwave and radar R&D. They also turn out to nicely reflect the breadth and quality of the conference, and offer something for every interested reader.

There is no doubt that the content of this issue is both rich and diversified. We observe that frequencies range from 1 GHz up to 100 GHz, with extensions into the optical range as a support for the microwave systems. While passive circuits are present, the majority of the papers are related to active systems, with several contributions including digital techniques interacting with the microwave part. There is an enormous variety of technologies that appear in the papers: from inkjet-printed lines, right/left-handed transmission lines, and magneto-dielectric substrates, through RF-MEMS, film bulk acoustic wave resonators and MMIC technologies (SiGe, GaN), up to the application of optical resonators and optical fibers. The applications you will observe are equally

diverse: from radar-like systems for the position detection of lap joints, concealed weapons or moving people to front-end chips, microwave microscopy, and biological sensors. We believe that all these subjects are top-of-mind for the European Microwave community. It is research results like these that make composing this special issue, just like organizing the week itself, worth all the effort!

As Associate Editors, we would like to thank the authors for their contributions, the reviewers for their unsurpassed efforts, and the editors-in-chief for their help and the opportunity to create this Special Issue. We hope that you will enjoy reading the papers, and that you too will consider publishing in the International Journal of Microwave and Wireless Technologies.



Bart Nauwelaers was born in Niel, Belgium in 1958. He received the M.S. and Ph.D. degrees in electrical engineering from the KU Leuven, Belgium. He also holds a Mastère degree in design of telecommunication systems from ParisTech Télécom, France.

Since 1981 he has been with the Department of Electrical Engineering (ESAT) of the KU Leuven, where he is a full professor and currently head of the division TELEMIC (Telecommunications and Microwaves). He is and has been serving the university in both educational and scientific bodies.

He has been or is involved in research on microwave antennas, passive components, interconnects, high- T_c superconducting circuits, microwave integrated circuits and MMICs, linear and non-linear device modeling, MEMS, biomedical measurements and wireless communications. He is (co-) author of over 500 publications in conference proceedings and in international journals. He is a former chair of IEEE AP/MTT-Benelux and former chair of URSI-Benelux.

In the bachelor and master programs of the KU Leuven, Bart Nauwelaers teaches courses on “Information transmission and processing”, “Digital and analog communications”, “Microwave Engineering” and “Problem solving and design in electronics”.

He was chair of the 2012 European Microwave Conference (EuMC 2012).



Frank van Vliet was born in Dubbel-dam, The Netherlands, in 1969. He received the M.Sc. degree, with honors, in Electrical Engineering in 1992 from Delft University of Technology, The Netherlands. Subsequently, he received his Ph.D. from the same university on MMIC filters. He joined TNO in 1997, where he is currently working as a principal scientist. In addition, he accepted a position as a full professor in microwave integration at Twente University in 2007, where he founded the Centre for Array Technology (CAT). His research interests include MMIC's in all their aspects, advanced measurement techniques, and phased-array technology.

Frank van Vliet (co-)authored well over 100 peer-reviewed publications. He is a member of the European Space Agencies (ESA) Component Technology Board (CTB) for microwave components, a member of the European Defence Agencies (EDA) CapTech IAP-01, founded the Doctoral School of Microwaves, and serves on the TPC of EuMIC, the IEEE International Symposium on Phased Array Systems and Technology, the IEEE Compound Semiconductor IC Symposium (IEEE CSICS), and the IEEE Conference on Microwaves, Communications, Antennas, and Electronic Systems (IEEE COMCAS). He served as chair of the 2012 European Microwave Integrated Circuit Conference (EuMIC 2012).



François le Chevalier is in charge of the Chair "Radar Systems Engineering" at Delft University of Technology (The Netherlands), and Scientific Director of Thales Air Operations Division in Rungis (94), France. A French pioneer in adaptive digital beamforming and STAP radar systems demonstrations, his current research activities include

space-time coding for active antenna systems, and wideband unambiguous radar systems.

He has been active in – or chairing – the Technical Program Committees of most IEEE International Radar Conferences since Brest, 1999, has recently chaired the Technical Program Committee of EURAD 2012, Amsterdam, and will be the Honorary Chair of SEE/IEEE International Radar Conference in France, 2014.

An author of many papers, tutorials, and patents in radar and electronic warfare, Prof. Le Chevalier is the author of a book on "Radar and Sonar Signal Processing Principles" published by Artech House in 2002, editor of "Non-Standard Antennas", published by Wiley in 2010, and co-author of "Principles of Modern Radar: Advanced Techniques", published by Scitech, IET Publishing, 2012.